REMARKS/ARGUMENTS

Amendments to the Specification

The amendments to the specification reflect the addition of a new Fig. 1 and corresponding substitution of new Figures 2-5 for original Figs. 1-4, as discussed below. No new matter is introduced.

Amendments to the Drawings

A substitute set of drawings are submitted with this Amendment. These drawings include a new Fig. 1 that was inadvertently omitted when the drawings were filed in this application. New Fig. 1 raises no new matter. A full description of added Figure 1 appears in the specification as originally filed at page 3, line 15 through page 5, line 10. In addition, new Fig. 1 is fully supported by original Figure 2 (now new Fig. 3) and the accompanying text in the specification at page 5, line 23 through page 10, line 25. New Figures 2-5 are simply a reordering of previously submitted drawings with the typographical errors and mis-numbering corrected.

As noted, these amendments are fully supported by the specification. No new matter is introduced.

Rejection Under Section 103

The Office action mailed January 21, 2003, in which the Examiner rejected pending claims 1-16, has been reviewed and certain amendments have been made to the application. In view of the following remarks, Applicant respectfully submits that the application is in condition for allowance.

In summary, the Examiner has rejected all claims in the application for obviousness under Section 103. Claims 1-5 and 14-16 have been rejected over Calamia in view of Hoffman. Claims 6-13 have been rejected over Calamia in view of Hoffman and Burrows. Applicant respectfully submits that these rejections are unsound. Calamia, Hoffman and Burrows have little to do with the subject matter of Applicants claims, there is no teaching or suggestion in any of the references for combining any of them with one another, and the product of any combination would itself be far removed from the subject matter of Applicant's claims.

Claim 1 is rejected under Section 103 over Calamia in view of Hoffman. The Examiner concludes that Calamia discloses the following: a sign, a first electrode formed on the sign surface, the first electrode having a lead that extends to a perimeter of the surface of the sign, a luminescent layer substantially aligned with the first electrode, a second electrode formed onto the sign, an interconnect tab portion having a pair of spaced, parallel slots extending inward from the sign perimeter to define a male end.

Applicant respectfully submits that the Examiner has erred in several respects. Most importantly, Calamia does not disclose an interconnect tab portion, much less an interconnect tab portion having a pair of spaced parallel slots extending inward from the sign perimeter to define a male end. Calamia does not disclose any structure remotely resembling these claimed structural features.

Calamia discloses an illuminated sign comprising an electroluminescent lamp 12 with a lower conductive film 16 and an upper conductive trace 22, which rests on a transparent conductive film 20. The lamp is encapsulated with an encapsulating film 24 and then inserted into a clear sign protective cover 28. Power is not supplied by mating a connector with an interconnect tab portion on the sign. There simply is no such structure.

The first step in making a connection is accomplished by cutting a slit into the clear sign protective cover 28 and encapsulating film 24 and then attaching a wiring clip 36 to one end of conductive trace 22. The wiring clip 36 used for this purpose appears from Fig. 2 to be a bent contact or wire with a pointed end. The pointed end extends through the slit, through an end portion of the transparent conductive film 20, and finally into the conductive trace 22.

In like manner, the other wiring clip 36 extends through a second slit cut into the clear sign protective cover 28 and encapsulating film 24. This wiring clip 36 is straight and appears from Fig. 2 to have a blunt end. After passing through the slit, this wiring clip 36 somehow lodges itself in the conductive film 16. Since the conductive film 16 is made of metal (copper or aluminum), it is not clear how this connection is made.

Furthermore, and for another reason, it is not clear how connection of either of wiring clips 36 is made if the electroluminescent lamp is made up of thin layers, as is generally the case and is clearly the case here. While Fig. 2 of Calamia depicts the electroluminescent

lamp 12 as a structure with relatively thick layers, the specification demonstrates that this is for illustrative purposes only. Thus, the lower electrode is conductive film 16, which is a film made by a deposition process. The phosphor layer 18 is a coating. The next layer -- transparent conductive film 20 -- is a film. And the top layer -- conductive trace 22 -- is simply a trace. The whole structure is wrapped in a film, encapsulating film 24. It is inconceivable that wiring clips 36 could be inserted into this thin structure through slits in encapsulating film 24 as shown in Fig. 2 and discussed in the specification.

In short, Calamia teaches at best a crude and inoperative structure and method for linking an electroluminescent lamp to a power supply. This structure and method have no relevance to the sign of Applicant's independent claim 1. Contrary to what the Examiner states, there is no interconnect tab portion anywhere on the sign of Calamia, much less an interconnect tab portion having a pair of spaced parallel slots extending inward from the sign perimeter to define a male end and a connector for releasably mating with said interconnect tab portion and for providing electrical power to said first electrode and said second electrode.

Hoffman cannot be combined with Calamia. There is no teaching or suggestion in either reference to do so. The Examiner reads Hoffman to disclose a connector configured to extend into the slots of the interconnect tab portion of claim 1. Applicant respectfully submits that the Examiner has erred. Hoffman discloses a lamp 12 for insertion into a three-sided receptacle 52. The lamp 12 is fitted with a connector 56, which is intended to interface with a connector 54 on receptacle 52.

Fig. 6 of Hoffman teaches that connector 56 on lamp 12 is not an interconnect tab portion and is female rather than male -- and hence that connector 54 necessarily is male and in no sense analogous to the female connector of claim 1. Furthermore, and directly contrary to the Examiner's position, there are no slots of any kind in female connector 56. It necessarily follows that male connector 54 does not extend into slots for mating with an interconnect tab portion, as required by Applicant's independent claim 1. No possible combination of Calamia with Hoffman can result in obviousness of claim 1 as it was presented in the last Office Action and Response and Amendment.

Nonetheless, applicant's independent claim 1 has been amended to clarify its

subject matter. As amended, claim 1 recites a dielectric layer as part of the illuminated design. The recital of the interconnect tab portion now identifies the location of the interconnect tab portion and provides details of the relationship between the interconnect tab portion and the electrode leads. In particular, amended claim 1 provides that the interconnect tab portion is located at the perimeter of the sign surface and supports at least a portion of least one of the leads of the first and second electrodes. A structure in which at least a portion of the leads of both electrodes are supported by the interconnect tab portion is recited in new dependent claim 18 The requirement for slots has been moved to a new dependent claim 17.

Neither Calamia or Hoffman, alone or in meritless combination, teach this specific structure comprising the interconnect tab portion and the electrode leads of claim 1 as amended. Applicant respectfully submits that claim 1 is patentable over Calamia in view of Hoffman. Withdrawal of the rejection of pending claim 1, as amended, is respectfully requested.

The Examiner has rejected claims 2-5 and 14-16 based on a combination of Calamia in view of Hoffman. Claim 14 has been cancelled. The remaining claims depend directly or indirectly from claim 6, which is now believed to be allowable over the cited references. As these dependent claims include all of the elements of claim 1, Applicant asserts that these claims also are allowable. Withdrawal of the rejection of pending claims 2-5 and 15-16 is respectfully requested.

The Examiner states that Hoffman discloses in Fig. 6 a connector configured to extend into the slots and a key pin 56 in order to connect the sign to the automotive electrical system and a locking pin 12 for locking the connector with the locking holes 50 to the surface of the sign. With respect, Applicant submits that the Examiner has misread Hoffman. None of the structural elements identified by the Examiner appear in Hoffman.

As noted, there are no slots anywhere in the two-connector structure of Hoffman. Element 56 is not a "key pin", but rather is an electrical connector (col. 4, ll. 52-54). Element 12 is not a "locking pin," but rather is the electroluminescent lamp itself (col. 4, ll. 44-45). Element 50 is not a "locking hole," but rather represents "opposed channels 50 in a three sided receptacle 52 . . ." (col. 4, ll. 46-47).

A combination of Hoffman with Calamia is nowhere taught or suggested in either reference. Nor would there be a motivation to do so. Both references are far removed from the subject matter of claims 2-5 and 15-16 , and remain just as far removed when combined. Again, withdrawal of the rejection of pending claims 2-5 through 15-16 is respectfully requested.

Claim 6 is rejected under Section 103 over Calamia in view of Hoffman. The Examiner concludes that Calamia discloses the following: a sign, a first electrode formed on the sign surface, the first electrode having a lead that extends to a perimeter of the surface of the sign, a luminescent layer substantially aligned with the first electrode, a conductor layer substantially aligned with the luminescent layer, a second electrode formed onto the sign, an interconnect tab portion having a pair of spaced, parallel slots extending inward from the sign perimeter to define a male end, a sealing layer and an outlining electrode formed onto the sealing layer and substantially circumscribing at least one of the second and third perimeter.

Applicant respectfully submits that the Examiner has erred in several respects. Most importantly, Calamia does not disclose an interconnect tab portion, much less an interconnect tab portion having a pair of spaced parallel slots extending inward from the sign perimeter to define a male end. Calamia does not disclose any structure remotely resembling these claimed structural features.

Calamia discloses an illuminated sign comprising an electroluminescent lamp 12 with a lower conductive film 16 and an upper conductive trace 22, which rests on a transparent conductive film 20. The lamp is encapsulated with an encapsulating film 24 and then inserted into a clear sign protective cover 28. Power is not supplied by mating a connector with an interconnect tab portion on the sign. There simply is no such structure.

The first step in making a connection is accomplished by cutting a slit into the clear sign protective cover 28 and encapsulating film 24 and then attaching a wiring clip 36 to one end of conductive trace 22. The wiring clip 36 used for this purpose appears from Fig. 2 to be a bent contact or wire with a pointed end. The pointed end extends through the slit, through an end portion of the transparent conductive film 20, and finally into the conductive trace 22.

In like manner, the other wiring clip 36 extends through a second slit cut into the clear sign protective cover 28 and encapsulating film 24. This wiring clip 36 is straight and appears from Fig. 2 to have a blunt end. After passing through the slit, this wiring clip 36 somehow lodges itself in the conductive film 16. Since the conductive film 16 is made of metal (copper or aluminum), it is not clear how this connection is made.

Furthermore, and for another reason, it is not clear how connection of either of wiring clips 36 is made if the electroluminescent lamp is made up of thin layers, as is generally the case and is clearly the case here. While Fig. 2 of Calamia depicts the electroluminescent lamp 12 as a structure with relatively thick layers, the specification demonstrates that this is for illustrative purposes only. Thus, the lower electrode is conductive film 16, which is a film made by a deposition process. The phosphor layer 18 is a coating. The next layer -- transparent conductive film 20 -- is a film. And the top layer -- conductive trace 22 -- is simply a trace. The whole structure is wrapped in a film, encapsulating film 24. It is inconceivable that wiring clips 36 could be inserted into this thin structure through slits in encapsulating film 24 as shown in Fig. 2 and discussed in the specification.

In short, Calamia teaches at best a crude and inoperative structure and method for linking an electroluminescent lamp to a power supply. This structure and method have no relevance to the sign of Applicant's independent claim 6. Contrary to what the Examiner states, there is no interconnect tab portion anywhere on the sign of Calamia, much less an interconnect tab portion having a pair of spaced parallel slots extending inward from the sign perimeter to define a male end and a connector for releasably mating with said interconnect tab portion and for providing electrical power to said first electrode and said second electrode.

Beyond this, there are a number of structural features of claim 6 that are not found in Calamia. Claim 6 is set forth below. Some of the structural features not found in Calamia are italicized:

1. 6. A sign comprising a surface and an illuminated design coupled thereto, said sign ~~illuminated design~~ comprising:

a first electrode formed on said sign surface, said first electrode defining a first perimeter;

a dielectric layer screen printed onto said first electrode and sign surface, said dielectric layer being substantially aligned with said first electrode and defining a dielectric perimeter, the dielectric perimeter extending beyond the first perimeter of the first electrode,

a phosphor layer formed on *said dielectric layer* and substantially aligned with said first electrode, *the phosphor layer defining a second perimeter, the dielectric layer perimeter extending beyond the second perimeter of said phosphor layer to define an exposed dielectric layer*;

a sealing layer formed on at least a portion of said exposed dielectric layer to electrically seal the dielectric layer;

a conductor layer substantially aligned with said phosphor layer and *defining a third perimeter*;

an outlining electrode formed onto the sealing layer *and substantially circumscribing at least one of said second perimeter and third perimeter*, said outlining electrode being configured to transport energy to said conductor layer,

an interconnect tab portion having a male end and a connector for releasably mating with said interconnect tab portion and for providing electrical power to said first electrode and said outlining electrode.

Hoffman cannot be combined with Calamia. There is no teaching or suggestion in either reference to do so. Hoffman discloses none of the structural features of claim 6 italicized above. In addition, Applicant has added a new claim 19. This claim adds additional structure to claim 6, namely, a specification that the interconnect tab portion supports at least a portion of said first electrode and at least a portion of said outlining electrode in a spaced relationship.

The Examiner reads Hoffman to disclose a connector configured to extend into the slots of the interconnect tab portion of claim 6. Applicant respectfully submits that the Examiner has erred. Hoffman discloses a lamp 12 for insertion into a three-sided receptacle 52. The lamp 12 is fitted with a connector 56, which is intended to interface with

a connector 54 on receptacle 52.

Fig. 6 of Hoffman teaches that connector 56 on lamp 12 is not an interconnect tab portion and is female rather than male -- and hence that connector 54 necessarily is male and in no sense analogous to the female connector of claim 6. Furthermore, and directly contrary to the Examiner's position, there are no slots of any kind in female connector 56. It necessarily follows that male connector 54 does not extend into slots for mating with an interconnect tab portion, as required by Applicant's independent claim 6. No possible combination of Calamia with Hoffman can result in obviousness of claim 6 as it was presented in the last Office Action and Response and Amendment.

The Examiner adds Burrows to Calamia and Hoffman for a disclosure of a dielectric layer. There is no dispute that Burrows discloses a dielectric layer. What is missing is a teaching or suggestion in any of the references to combine any of them with one another. Furthermore, Burrows does not correct any of the deficiencies of Calamia, Hoffman -- or the combination of the two -- explained above. Lastly, Burrows does not teach any of the structural features italicized above in claim 6, other than the naked disclosure of a dielectric layer.

Applicant respectfully submits that claim 6 is patentable over Calamia in view of Hoffman. Withdrawal of the rejection of pending claim 6, as amended, is respectfully requested.

The Examiner has rejected claims 7-13 based on a combination of Calamia in view of Hoffman. These claims depend directly or indirectly from claim 6, which is now believed to be allowable over the cited references. As these dependent claims include all of the elements of claim 6, Applicant asserts that these claims also are allowable. Withdrawal of the rejection of pending claims 7-13 is respectfully requested.

The Examiner states that Hoffman discloses in Fig. 6 a connector configured to extend into the slots and a key pin 56 in order to connect the sign to the automotive electrical system and a locking pin 12 for locking the connector with the locking holes 50 to the surface of the sign. With respect, Applicant submits that the Examiner has misread Hoffman. None of the structural elements identified by the Examiner appear in Hoffman.

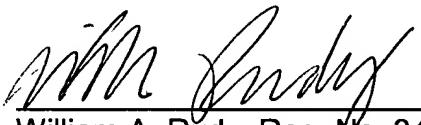
As noted, there are no slots anywhere in the two-connector structure of Hoffman.

Element 56 is not a "key pin", but rather is an electrical connector (col. 4, ll. 52-54). Element 12 is not a "locking pin," but rather is the electroluminescent lamp itself (col. 4, ll. 44-45). Element 50 is not a "locking hole," but rather represents "opposed channels 50 in a three sided receptacle 52 . . ." (col. 4, ll. 46-47).

A combination of Hoffman with Calamia and Burrows is nowhere taught or suggested in any of the references . Nor would there be a motivation to do so. The three references are far removed from the subject matter of claims 7-13, and remain just as far removed when combined. Again, withdrawal of the rejection of pending claims 7-13 is respectfully requested.

Applicant respectfully submits that claims 1-13 and 15-19 are in condition for allowance and respectfully solicits that result. Applicant believes that no fees are due. However, if fees are in fact deemed necessary in connection with this Amendment, the Examiner is authorized to charge deposit account number 12-2252. Please call the undersigned with any questions.

Respectfully submitted



William A. Rudy, Reg. No. 34,916
Lathrop & Gage L.C.
2345 Grand Boulevard, Suite 2300
Kansas City, MO 64108
(816) 460-5819 (phone)
(816) 292 2001 (fax)